

COURSE OUTLINE

Programming in C#

Learners Point
ACADEMY

The Business Center - Suite 610 -
Khalid Bin Al Waleed Rd - Al Hamriya
- Dubai - United Arab Emirates

Course Overview

This Programming in C# course provides a comprehensive exploration of developing robust applications using C# and the .NET 6 framework. Beginning with fundamental syntax and language constructs, participants will progress through key concepts such as object-oriented programming, including methods, inheritance, and polymorphism. The course covers essential topics like data structures, collections, and events, as well as advanced practices in file I/O, serialization, and database access with Entity Framework and LINQ. Learners will also gain experience in network programming with web services, REST, and OData, and will enhance their applications' performance through multitasking and asynchronous operations. By integrating theoretical knowledge with practical labs, including developing a Class Enrolment Application and a Grades Report, participants will be equipped to build, manage, and optimize scalable C# applications effectively.

Course Schedule

Duration : 3 Days

Module 1: C# Syntax

- Writing Applications in C# and .NET
- Types of Data and Expressions
- C# Language Constructs

Module 2: C# Language Concepts

- Methods
- Method Overloading
- Exception Handling
- Monitoring

Module 3: C# Structures, Collections and Events

- Structs
- Enums
- Built-in Collections
- Events

Module 4: C# Classes

- Creating Classes
- Interfaces
- Understanding Generics in C#

Module 5: C# Inheritance

- Hierarchies of Classes
- Polymorphism
- Extending Classes

Module 6: Input and Output

- File I/O
- Serialization and Deserialization
- Streams

Module 7: Database Access

- Entity Framework
- LINQ

Module 8: Using the Network

- Web Services
- REST and OData
- ASP.NET Core MVC

Module 9: Application Performance

- Multitasking
- Asynchronous Calls
- Dealing with Conflicts

Program Outcomes

Upon completing this Programming in C# course, participants will be proficient in developing and managing applications using C# within the .NET 6 framework. They will have a strong grasp of core language constructs, including data types, expressions, and object-oriented principles such as methods, inheritance, and polymorphism. Participants will be adept at creating and using classes, structs, and enums, and will understand how to leverage collections and events for effective data management and user interaction. They will also gain hands-on experience with file I/O operations, serialization, and database access using Entity Framework and LINQ. Additionally, participants will be skilled in network programming, including working with web services, REST, and OData, and will know how to enhance application performance through asynchronous programming and multitasking. Overall, they will be equipped to build, optimize, and maintain scalable and high-performance C# applications.